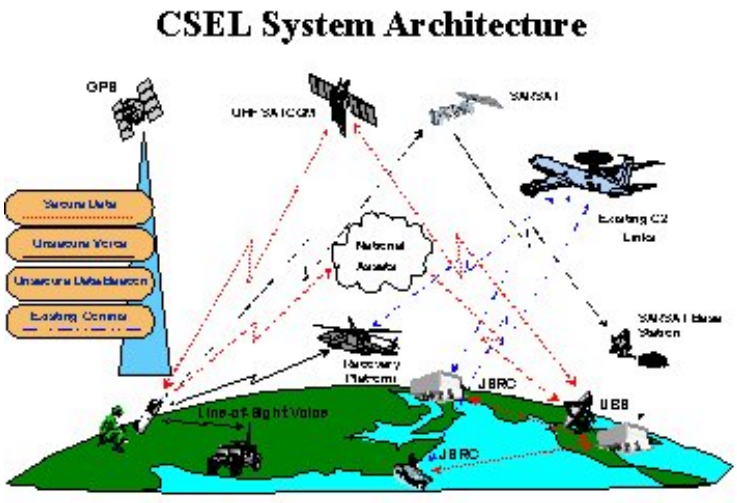
Defense POW/Missing Personnel Office
Operations Directorate — Fact Sheet

Combat Survivor Evader Locator System

The Combat Survivor Evader Locator is the next generation combat search and rescue communication system. The Space and Missile Systems Center's Global Positioning System Joint Program Office is developing it for the Department of Defense. The Boeing Company, Anaheim, California, is the prime contractor.

Combat search and rescue missions have historically experienced a low success rate in making rescues. They also have suffered high losses in personnel and equipment due to inaccurate situational awareness information.

Existing survival radios are only effective if friendly forces are within line-of-sight. Furthermore, they can be rendered ineffective by even elementary jamming or deception efforts and can be easily monitored and located by the enemy.



The CSEL system has a line-of-sight voice capability similar to the current survival radio, yet it also provides the capability for user identification, precision location, and worldwide, continuously available two-way secure data communications over multiple satellite systems. CSEL's small portable radio provides the survivor in the field (typically a downed aircrew member) with military-precision GPS navigation data. The system delivers a message to an on-line workstation at a designated Joint Search and Rescue Center and returns an acknowledgment message all within minutes of activation.

The CSEL system architecture is composed of three segments. The user equipment segment contains a multi-function hand-held software reprogrammable radio incorporating the latest GPS technology. The satellite communication segment incorporates four worldwide UHF base stations providing two-way secure messaging and location. The ground segment contains the Joint Search and Rescue Center software application, which allows command and control interface with other government systems.

CSEL was awarded the Defense Standardization Award on March 21, 1997, and was identified by the Secretary of the Air Force Acquisition Office as an acquisition reform success story.

Cost

- Target cost of $5,000 per radio (at full rate production)
- Total program value = $450 million (includes the purchase of approximately 46,000 radios)

Key program milestones

- Next Operational Evaluation: Mar 2001
- Low Rate Initial Production Decision: Jun 2001
- Initial Operational Test: 3rd quarter of FY2002
- Initial Operational Capability: 4th quarter of FY2003

Comparison With Existing Survival Radios

The PRC-112 is the current frontline survival radio. The PRC-112B is a limited distribution (500 AF, 500 Navy) stopgap until CSEL is fielded.

PRC-112/PRC-112B	PRQ-7 (CSEL)
• Line-Of-Site (LOS) voice/beacon ➢ 2 programmable voice frequencies	• Line-Of-Site (LOS) Voice/Beacon • 6 programmable voice frequencies
• Theater, LOS coverage for data communications (PRC-112B only) ➢ 1-way LOS data	• Global, Over-The-Horizon (OTH) coverage for data communications ➢ 2-way secure satellite data ➢ 6 programmable channels • Secure lower probability of exploitation mode • 6 programmable channels • Civilian Global Satellite Search and Rescue Capability (SARSAT)
• Civilian GPS capability (PRC-112B only)	• Next generation military GPS capability • Higher accuracy/security/jamming resistant
• Transponder Mode	• Growth option

Other CSEL Key Features

- Water resistant to 10 meters (5 minutes)
- 10-day mission battery life
- Weight: 32 Oz (fits in current survival vest)
- Field re-programmable software